Jezebel Nymph,
Mynes geoffroyi guerini
on *Pipturus argenteus*

METAMORPHOSIS

AUSTRALIA

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PLANNING AND ORGANIZATION MEETINGS

A quarterly meeting is scheduled in order to plan club activities and the magazine. See BOIC Programme.

CONTACT ADDRESS AND MEMBERSHIP DETAILS

PO Box 2113, Runcorn, Queensland 4113
Membership fees are $30 for individuals, schools, and organizations.

AIMS OF THE ORGANIZATION

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, native bees, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

MAGAZINE DEADLINES

If you wish to submit an item for publication the following deadlines apply:
March issue – February 1st June issue – May 1st
September issue – August 1st December issue – November 1st
All articles should be submitted directly to the Editor daphne.bowden1@bigpond.com

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COVER PAINTING

Jezebel Nymph, *Mynes geoffroyi guerini* – Painting by Lois Hughes

From the President

At times, the accumulation of years of experiences may, in tired moments, tend to weigh us down with thoughts that we may have little left to contribute and it is nearly time to "hang up the cue." Then comes the time to reflect on the various contributions that appear in our magazine…. and the batteries are recharged.

Such is certainly the case for this edition. You will read of the privilege that Daphne and I have shared through access to Densey Clyne's unpublished autobiography and to learn of parts of her remarkable life and of the fact that she was active and full of life even until near the end of that long, rewarding life. And that Densey was an "autodidact." We can all "learn" from that!

Thanks also for the recharge from Wesley, Richard, Lois, Irene, Alan and to the many members who made our outing for the public at Downfall Creek Bushland Centre such a great success.

Once again Daphne has brought all of the elements together with great patience and expertise.

A short note: There has been little interest in a club calendar for next year so we will not go ahead with this.

Best wishes *Ross*

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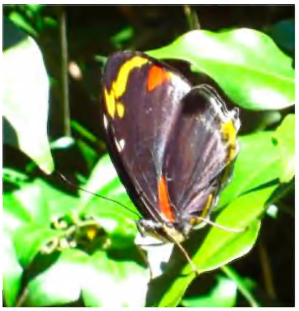
Life history notes on the Jezebel Nymph, *Mynes geoffroyi guerini* Wallace, 1869 Lepidoptera: Nymphalidae – *Wesley Jenkinson*

This striking butterfly is known sporadically from Cape York into north-eastern New South Wales in coastal and subcoastal areas and along the Great Dividing Range. The adults utilise a varied range of habitats including upland and lowland tropical, subtropical and temperate rainforests and riparian forest. Occasionally they colonize parks and suburban gardens where their host plants have been established.



The adults fly high above the ground in sunny openings along forest tracks, creeks and forest margins. Males fiercely defend territories typically perching on leaves, facing outwards with head angled slightly downwards. Females also have a rapid flight but may fly much lower when searching for ovipositing sites on host trees. Flight occurs in both sunny and warm cloudy conditions. In hotter regions like north Queensland they can be active during humid drizzly weather conditions.

Both sexes appear to seldom feed but, on occasions, I have observed adults feeding at exotic Lantana flowers. A female was also observed feeding on exotic Geisha Girl (*Duranta* sp.) flowers in my garden.

In flight, adults of this strong mimicking butterfly can be confused with several *Delias* species, in particular the Black Jezebel (*Delias nigrina*) where they often fly together in rainforest. The flight pattern of the two genera is different, with *M. g. guerini* usually having a much stronger direct flight. The antennae are much longer in *M. g. guerini*.

Within this subspecies individual specimens show variation in physical size and slight variation in wing shape. Adults are known from a dark form (pictured page 5) and a pale form where much of the black marking on the underside is replaced with white and the hindwing dorsum is largely suffused with

yellow. This uncommon form which appears to mimic the female of the Red-banded Jezebel (*Delias mysis*) is known to occur from Rockhampton northwards (the range of the corresponding jezebel) (Braby, 2000; Moss, 2018). Intermediate variation also occurs where much of the black is replaced by white on the underside of the forewing (pictured page 4). This specimen was bred from eggs laid on cultivated Native Mulberry (*Pipturus argenteus*) at Beaudesert in south-eastern Queensland.

The sexes can be separated, with the females having both the black margin and the bluish grey scales on the upperside much broader and suffused.

Wingspans for the pictured adult specimens are males 50mm and females 54mm respectively.

Jezebel Nymph, *Mynes geoffroyi guerini*
Images top left to right: male, female Images lower left to right: male underside, female underside

Known host plants listed by various authors in Braby, 2000 include *Dendrocnide moroides*, *D. photinophylla* and *Pipturus argenteus*. Final instar larvae have been successfully raised on *Pouzolzia macrura* by K.L. Dunn (Braby, 2000). John Moss has also observed a large cluster of larvae on the underside of a leaf of the Giant

Stinging Tree *Dendrocnide excelsa* at Binna Burra in the Lamington National Park. All of these host plants are in the Urticaceae family.

It should be noted for any readers unaware of the three stinging trees listed above, namely: *D. excelsa, D. moroides* (Gympie Gympie) and *D. photinophylla* (Shining-leaved stinging tree), **to not touch or brush against** their stems, live or dead leaves. Body contact with stinging 'hairs' can be severely painful and irritation can last for months.

During April 2011 at Beaudesert, a female was observed laying several clusters of eggs on cultivated *P. argenteus* in my garden. She slowly fluttered throughout the tree and then settled on a leaf with wings closed. The abdomen was curled onto the leaf then moved around to lay a cluster of eggs next to one another. These eggs were successfully raised to adults. Clusters of eggs from a dozen to sixty are laid on either side of the leaves. Older leaves are generally utilised on *P. argenteus* and this preference may be similar on other hostplant species. Females will oviposit within a metre of ground-level if suitable host leaves are available.

The eggs are circular shaped, approximately 0.8 mm wide x 0.8 mm high, with 11 coarse vertical ribs, pale yellow when laid changing to yellowish-orange after several days.

Egg cluster

Uneaten eggshells and 1st instar larvae

1st instar larva

2nd instar larva

3rd instar larva

4th instar larva

5th instar larva

The first instar larval clusters emerged rather simultaneously and larvae did not consume the eggshells. After hatching they chewed small holes into the leaf underside. Larvae soon begin to feed gregariously chewing around the leaf edges and were observed feeding during daylight. While at rest (pre-moulting) they sometimes form an unusual spinning wheel formation as pictured below. Later instars continued to feed gregariously and moved about the host tree travelling in single file. Some larval clusters separated into smaller groups as they grew. Larvae completed five instars and attained a length of up to 30mm.

Interesting spinning wheel formation
Photo Ross Kendall

Pupa dorsal view

lateral view

Group of pupae

Dark grey coloured pupae, measuring 22mm in length, were located below stems of the host plant. They were attached with silk, hanging by the cremaster, with the head suspended downwards.

The total time from eggs laid 16/04/2011 to adults emerging 04/08/2011 was just over 3.5 months, with egg duration 13 days. The larval and pupal duration were not separately recorded. These stages can be affected by seasonal influence, and as pupal diapause occurs, emergence times can vary greatly.

Within the new boundary of the Scenic Rim Regional Shire south of Brisbane, I have records of adults during the months of February, March, April, June, July and August. It is possible there are at least two generations per year in this region. Colonies in south-eastern Queensland seem somewhat transitional appearing at breeding sites, then disappearing only to return again several seasons later. On three separate occasions, single females have arrived in my garden, during April in 2010 and April 2011 and eggs located during April 2016. Several clusters of eggs were laid on each occasion.

I would like to thank John Moss for commenting on the manuscript, Ross Kendall for supplying larval image and Lois Hughes for allowing me to collect various instar larvae resulting in better images at the last moment!

Photos, except where previously credited, Wesley Jenkinson

Reference:

Braby, M.F., 2000. *Butterflies of Australia – Their Identification, Biology and Distribution.* vol 2. CSIRO Publishing, Melbourne.

Moss, J.T.St.L., 2019. Notes on mimicry, especially in relation to butterflies and moths, with special reference to the Dainty Swallowtail *Papilio* (*Eleppone*) *anactus* (W.S. Macleay) 1826. *Metamorphosis Australia* **90**: 4-19.

ITEMS OF INTEREST

Castiarina – Australia's largest Jewel Beetle genus – *Richard Zietek*

Jewel Beetles are some of the most colourful of our native insect fauna. The *Castiarina* is the largest group in the Buprestid family of Jewel Beetles with in excess of 480 species. Little is known of their life histories but it is suspected that they are stem and root borers while in their larval stages. The adults emerge early September and right through Summer. These adults are usually found feeding on native species of flowers like Leptospernum, Baeckea, Eucalyptus, Melaleuca and Angophora. Bursaria, Eucalyptus and Melaleuca are mainly used by the Summer emerging species.

I have included images of a few species I collected at Mt Surprise area a few years ago. I hope it develops some interest in this beautiful group of insects.

Castiarina aeruginosa

Castiarina biguttata

Castiarina walfordi

Castiarina obsepta

Castiarina hypocrita

All images are highly magnified, actual sizes range from 12mm to 16mm.

Photos Fenton Walsh

Reference:
Castiarina – Shelley Barker

****

Loopy Lichens?!! – *Lois Hughes*

Photo John Hughes

On October 3rd, 2016, on the flat verandah rail, a 15mm fragment of lichen, moving in the breeze, caught my attention. I presumed "it" had become detached from the branches of the Queensland Nut trees close by, which are attractively decorated with lichen and moss. Puzzled, I questioned why the breeze hadn't just blown "it" away, lichen being so light.

Turning it over, I closely examined this curiosity to see if it was being transported by ants, concealed beneath.

Although there were several tiny ants moving around on the rail, there were none beneath it. Then it sat up and waved at me!!

Really! Now it had my full attention!! I realised it wasn't a detached fragment of lichen but a very lively creature. So we moved it onto the table and took some photos and, magnified, I could clearly discern its unique features.

Pale green in colour and attached to a long, narrow, nobby body, were 10 nobby leg-like structures of varying lengths. These were small at the front and back ends (it is difficult to discern which was which!) and gradually lengthening to a central pair which could be raised up over its body and waved about.

Transferring "it" to a clear food container for observation failed to reveal any more secrets as it just remained motionless, legs akimbo. Next morning we found it clinging to the stem of a plant, one of several in the vicinity of its discovery, along with lichen and moss, which I had added to the container in the hope of finding its food source. On reflection, given its small size, I probably couldn't have seen if it had consumed any of the "offerings" anyway. Hindsight is helpful (or not)!

As is my usual practice, I sought Divine guidance, as I didn't want it to die in the container just to satisfy my curiosity. I was led to go and look on the nut tree and, bingo, there was another "creature" exactly the same, sitting in the fork of the tree. Overjoyed, I quickly transferred the captive creature to a spot nearby and it immediately moved up the trunk with a wobbly, loopy movement, much like a looper caterpillar. I was relieved to be able to return it to its normal habitat.

Since then we have found quite a number of these creatures on other lichen-covered trees, so, realising they weren't rare, I kept two in a container. They liked to hide beneath pieces of lichen or moss but eventually died without giving us any more clues to their secret lives. We have several videos on the phone as they moved about their container, legs waving about. Funny little curiosities!

Can anyone out there enlighten us as to the lifecycle of this intriguing creature?

Ed.: Martyn Robinson was able to identify the wee beastie and Peter Hendry then supplied the following details.

Lois's "Loopy Lichens" are larvae of a moth in the genus *Eucyclodes,* family Geometridae subfamily Geometrinae. Common, 1990 gave a general description of the larvae under the genus *Anisozyga* as follows: "*the larvae have large dorsolateral flanges on the meso- and metathorax and on abdominal segments 1 to 5*". The genus *Anisozyga* is listed in the 1996 Checklist of the Lepidoptera of Australia but all species are now included under *Eucyclodes* in the on line Australian Faunal Directory. Common, 1990 noted the adult moths are sexually dimorphic (males and females differ). Unfortunately I was unable to place them to a specific moth which is often the case as so many moth life histories are unknown.

Reference: Common, I. F. B., 1990: Moths of Australia. Melbourne University Press. Carlton.

Odonata Identification – *Irene Denton*

A slightly different version of this article first appeared in The Society for Insect Studies Circular 195, October 2018.

Reference Material

The following are the two main publications regarding Australian Odonata, the damselflies and dragonflies:

(1) *The Complete Field Guide to Dragonflies of Australia*, Gunther Theischinger and John Hawking, published by CSIRO (referred to as *Field Guide* in this article). Despite the title, it does include Damselflies. Both scientific and common names are presented. This is a print book with descriptive text, some anatomical line drawings, and colour photos. The distribution maps colour an entire geographical region even if the species is only in a small area of that region.

(2) *Identification Guide to the Australian Odonata*, Gunther Theischinger and Ian Endersby, published by Department of Environment, Climate Change and Water NSW (referred to as *Key* in this article as this whole book comprises keys to the genera and species). Thank you to them for permission to reproduce the line drawings in this article. The Key only uses scientific names. The maps reflect point data, thus narrowing down distribution. This was originally a print book (now out of print) with descriptive text and anatomical line drawings. It's now a free download from the internet (see end of this article).

They Pose Beautifully!

Before your eyes glaze over at some of the following technical items, please note that some of the reasons I love Odonata are that they are a larger insect, and they pose so co-operatively for photographs.

They perch still for long periods. Therefore, good photos from a distance with a zoom lens can be obtained, and with a slow and gentle approach, great macro photos can be taken. These can be zoomed on the computer and all the necessary detail can be seen to facilitate identification down to species level.

Metallic Ringtail, *Austrolestes cingulatus*, male

There are about 325 Australian species and they are all covered by the Field Guide and Key. Hence there is a great possibility of identifying all the species from photos, without the need to collect specimens.

This compares to insects with thousands of species, such as beetles or moths, where it may only be possible to get down to family or genus level regarding identification.

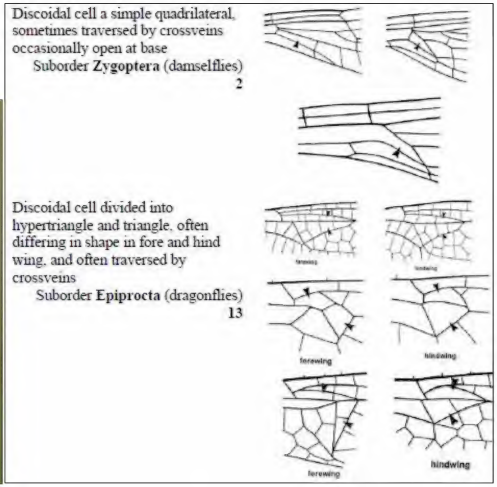
There is one circumstance where it may be more difficult to identify the species and that is when the Odonata are at teneral stage, i.e. they have just emerged as an adult from the exuvia (photo at right). At this stage, they are plainly coloured and it may take several days to attain the adult colours and patterns.

Technical Differences

The Field Guide and Key show which species are damselflies and which are dragonflies. From a technically scientific viewpoint, the difference between them is as follows.

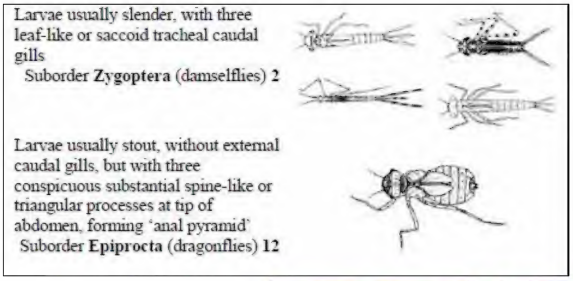
Adults: wing venation

A plain background will allow studying the wing venation.


Discoidal cell a simple quadrilateral, sometimes traversed by crossveins occasionally open at base
Suborder **Zygoptera** (damselflies)
2
Discoidal cell divided into hypertriangle and triangle, often differing in shape in fore and hind wing, and often traversed by crossveins
Suborder **Epiprocta** (dragonflies)
13
forewing
hindwing
forewing
hindwing

Mountain Darner Dragonfly, *Austroaeschna atrata*

Larvae: appendages at tip of abdomen

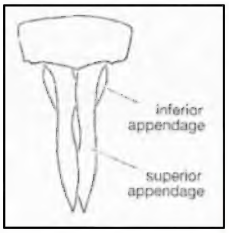

Larvae usually slender, with three leaf-like or saccoid tracheal caudal gills
Suborder **Zygoptera** (damselflies) **2**
Larvae usually stout, without external caudal gills, but with three conspicuous substantial spine-like or triangular processes at tip of abdomen, forming 'anal pyramid'
Suborder **Epiprocta** (dragonflies) **12**

Damselfly (left) and dragonfly (right).

These are exuvia (the empty case after adult has emerged). The existence of exuvia lets you know the area was used for breeding.

Adults - Male and Female Difference

The difference between males and females is based in the abdomen tip structure, with the male having a pair of "claspers" (line drawing below) to hold the female, while the female has a bulker tip in which to store eggs. These are observable from photos and can be useful. If your photo isn't matching anything in the Field Guide, check the abdomen tip to see if it's a female as these aren't always depicted by photos in the Field Guide.



Left: female Tropical Rockmaster Damselfly, *Diphlebia euphoeoides*
Middle: male Metallic Ringtail Damselfly, *Austrolestes cingulatus*
Right: male Australian Emerald Dragonfly, *Hemicordulia australiae*

If possible, obtain photos of all the following:

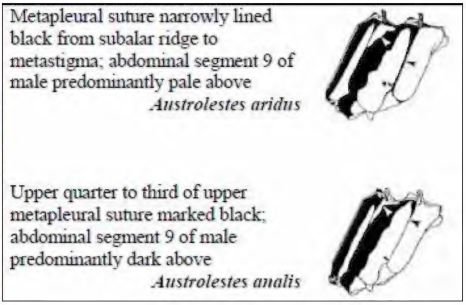
(1) lateral view (side view) of thorax and abdomen, unobscured by wings. This is possible as sometimes the damselflies hold both wings on one side of their abdomen, and dragonflies hold their wings up or back revealing the thorax. Try to angle your camera to photograph the lower part of the thorax;

(2) dorsal view (view from above) including thorax, abdomen and top of head and eye area. This is possible as many species hang in trees and shrubs. For species next to or in water, they may be perching at just the right angle on a stick or rock; and

(3) wing venation, with the wing against a relatively plain background, both for identification and for impressive photos!

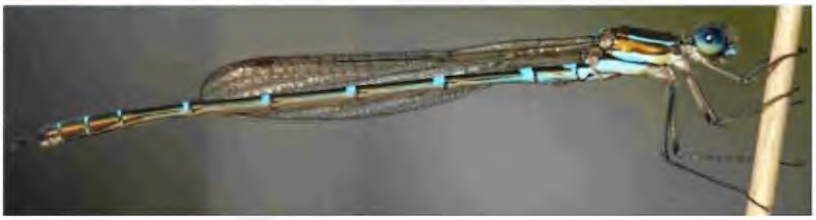
The Key includes the line drawings from the Field Guide, but with arrows pointing out the relevant feature. Even if you don't like keys and detailed anatomy, this can still be useful. You can go straight to the desired species in the Key and use the description and drawing to either definitely eliminate that species, or confirm it as a possibility. In many cases, a specimen in hand is not necessary as good photos can be compared to the drawings.

Thorax photos can be very useful. In the case of the following Inland Ringtail Damselfly, *Austrolestes aridus*, the thickness of the L shaped mark is an excellent identification mark.


Metapleural suture narrowly lined black from subalar ridge to metastigma; abdominal segment 9 of male predominantly pale above
Austrolestes aridus
Upper quarter to third of upper metapleural suture marked black; abdominal segment 9 of male predominantly dark above
Austrolestes analis

For the ringtails, a lateral view of the abdomen makes it easy to see the length and shape of the blue markings for identification. These markings would be much more difficult to judge from dorsal view photos. The following images are:

Top: Blue Ringtail Damselfly, *Austrolestes annulosus*
Middle: Wandering Ringtail Damselfly, *Austrolestes leda*
Bottom: Metallic Ringtail Damselfly, *Austrolestes cingulatus*



Most of the emeralds are distinct, but two of them need extra care. It can be difficult to distinguish between the yellow patterns from the dorsal view of:

the Tau Emerald Dragonfly, *Hemicordulia tau* (top of both pairs of the left hand photos), and the Australian Emerald, *Hemicordulia australiae* (bottom of both pairs of the left hand photos).

The species are more easily distinguished with lateral abdomen photos.

These are examples of lateral views being better. For the tigertails and some skimmers, the dorsal pattern of abdomen dots and dashes are key to identification.

Left: Southern Tigertail Dragonfly, *Eusynthemis guttata*
Right: Swamp Tigertail Dragonfly, *Synthemis eustalacta*

Left: Green Skimmer Dragonfly, *Orthetrum serapia*
Right: Slender Skimmer Dragonfly, *Orthetrum sabina*

For the following Southern Tigertail Dragonfly, *Eusynthemis guttata*, a thorax dorsal view gives little indication of the pattern on the side of it.

Odonata love high summer, so the peak viewing time in the Sydney area (say Hunter Valley to Southern Highlands, plus the Blue Mountains) is about December to February. For southern Queenslanders, it would be slightly longer. Overall, activity is September to May, stretching to late June in far north Australia. Freshwater bodies are the best habitat to search for Odonata, but adults can be sighted away from water and in some surprisingly dry places, so look out for them wherever you are.

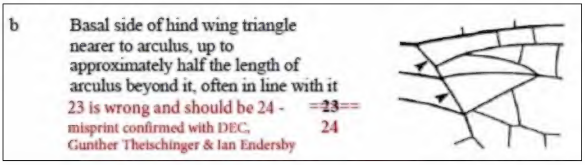
Along with the size, they are a wonderful, obliging group of insects and consequently easier to find and observe than the smaller insects. Their lifestyle is very interesting, making them very satisfying to study.

Article and all photos copyright of Irene Denton.

The Key is available as a pdf from:

http://www.environment.nsw.gov.au/resources/publications/09730AustOdonata.pdf

Note there is a typo on page 24 (confirmed with the authors and publisher, but not corrected in the pdf file). At pair choice 20, 20b should lead to 24, not 23.


b
Basal side of hind wing triangle nearer to arculus, up to approximately half the length of arculus beyond it, often in line with it
23 is wrong and should be 24 - misprint confirmed with DEC, Gunther Theischinger & Ian Endersby
=23==
24

In addition to the Field Guide and Key, there are relatively recent books on Odonata generally and covering Odonata worldwide, usually with many colour photos. For deeper study of the biology and lifestyles of Odonata, the following are free internet downloads. Be aware of the age of the books as scientific names and family and genera definitions have changed by now:

The Biology of Dragonflies, R.J. Tillyard, publisher Cambridge University Press 1917 (includes Damselflies). Heavily based on Australian Odonata. 430 pages. Lots of text. Line drawings.

A Biology of Dragonflies, Philip S. Corbet, publisher H.F. & G. Witherby Ltd. 1962 (includes Damselflies). International coverage. 136 pages. Lots of text. Line drawings.

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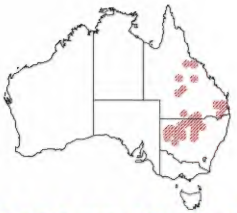
Extract from **The Mistletoes of Sub-tropical Queensland, New South Wales and Victoria** by *John T. Moss* and *Ross Kendall*

Flindersia or Leopardwood Mistletoe

Amyema lucasii

Description



This is a compact, densely branched mistletoe with stiff leathery bluish-green, oval to obovate (to 6 long and 2.5 cm wide), oppositely placed leaves.

The sessile flowers are attached to a long peduncle by short

rays (usually 4) and arranged in pendulous umbels of triads. These flowers are greenish-yellow (but occasionally red) with yellow stamens. The ellipsoidal, partly tomentose fruit (to 10 mm) are crowned by a persistent calyx rim.

Habitat and Host Plants

This mistletoe is hosted by Leopard Ash (*Flindersia collina*) and Crows Ash (*Flindersia australis*) in sub-coastal vine scrub and adjacent open forest and by Leopardwood (*Flindersia maculosa*),Wilga (*Geijera parviflora*) and Beefwood (*Grevillea striata*) in semi-arid woodland further west.

Butterflies and Moths

- Black or Common Jezebel (*Delias nigrina*)
- Satin Azure (*Ogyris amaryllis meridionalis*)

Notes

The authors have found this species on Leopard Ash (*Flindersia collina*) at Meringandan near Toowoomba and in a number of places east of the Great Dividing Range in south-eastern Queensland including Mt Berryman near Gatton in the Lockyer Valley, Mt Stradbroke in the Minden Range and at the base of Mt Maroon near Rathdowney in the Scenic Rim, all in dry vine or "softwood" scrub.

Further west, in semi-arid woodland at several sites in southern Queensland, John has encountered this species commonly hosted by Leopardwood (*Flindersia maculosa*) and also occasionally by Beefwood (*Grevillea striata*) and Wilga (*Geijera parviflora*). Interestingly, the first two of these trees were also found to host the Fine-Leaf or Narrow-Leaved Mistletoe (*Lysiana linearifolia*) and were occasionally hosting both mistletoes together!

Delias nigrina eggs hatching (Ross Kendall)

Amyema lucasii plant on *Flindersia maculosa* (John Moss)

Amyema lucasii flowers and buds (John Moss)

Amyema lucasii flowers and immature fruit (Glenn Leiper)

Amyema lucasii fruit (Glenn Leiper)

Australian Native Bee Association Logo Competition

BOIC member, Alan Hyman, who designed our logo, has now won the competition to design a logo for the newly formed Australian Native Bee Association. The following is an extract from their newsletter.

Results of the logo and newsletter title competition are in! The call went out to the bee community in search for a logo and newsletter title for the newly formed Association. We were overwhelmed with responses to both competitions with many outstanding entries, leaving us with a tricky yet enjoyable decision to make.

The newsletter title attracted many wonderful and very clever contributions. But we awarded the winning entry to Alan Hyman from Bathurst NSW for: **The CROSS-POLLINATOR.** Alan's explanation "*Newsletter title implying an exchange of information / research / ideas/ forum with obvious bee reference",* and we agree this is the goal. Thanks and congratulations Alan.

The logo competition drew an equally brilliant field making it also a tough choice to decide a single winner. We liked the entries that incorporated a range of different native bees and decided to take this on board in designing the logo. We have taken Alan Hyman's overall concept and lettering and allowed room to substitute the bee image depending on context and use.

Alan's original entry and explanation: "*Flowing lines representing a bee's flight as it moves from flower to flower – basically the letter forms lend themselves to a fluid connectivity providing a distinctive logo*". A delightful concept and description accompanied by a fine-looking logo.

So our logo will not be static but a moveable feast. Association Branches may choose to take the basic logo and replace the bee image or words for their emblem. For example, four variations on the logo theme have been tweaked by Glenbo Craig to get the ideas flowing.

Clockwise from top left: stingless bee, blue banded bee, reed bee, leafcutter bee

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Ed.: Speaking of native bees, did you notice the "bee" stamps on your envelope?

A Life Well Lived

Densey Clyne – 4th December 1922 – 20th May 2019

May 20th 2019 marked the passing of Densey Clyne, a quite remarkable person who spent the last nineteen years of her life at her beloved "Yonderley" near Wauchope in Central New South Wales.

We have been privileged to read Densey's unpublished autobiography which begins with a verse from Robert Frost's poem "Reluctance".

Out through the fields and the woods
And over the walls I have wended;
I have climbed the hills of view
And looked at the world, and descended;
I have come by the highway home,
And lo, it is ended.

Dorothy Denise Bell (Densey) was born into a middle class family on December 4th, 1922 in a rural village called Risca close to Newport in Wales. Her older siblings were a brother, John, and sister, Greeta. She learned to share her parents love of music and literature, and of nature. This continued after the family moved to the North Island of New Zealand in 1926 where she enjoyed walking in the bush observing the birds, insects and plants.

Then the family moved to Australia in 1932, living in the Newcastle area where, from Densey's account, she acquired a rather haphazard formal education but expanded her observations of nature. Her one short attendance at school was to a convent where she recorded "I stay at 'Star of the Sea' just long enough to learn one skill that's stood me in good stead - touch typing." Her first encounter with Australian flora and fauna was on the day the family arrived in Newcastle. While her parents settled in, she explored the garden (or lack of it) around the house and observed a bright blue butterfly and she writes "Beyond the back door the initial promise of the birds and flowers at the front of the house seems less certain of fulfilment. Scorched grass, a broken paling fence, scattered rubbish – yes, I see all this through my mother's eyes and understand her dismay. But my eyes find their own focus on a flash of living colour – a butterfly the like of which I have never seen before. From where I sit on

the back steps of the house, I watch the butterfly sail down the garden, a small bright blue kite rising up and over the back fence out of sight. Quickly, I race after it and climb the fence. Beyond lies a scene of enchantment: a tangle of bushes as far as the eye can see, starred with flower clusters. I rub their prickly leaves and find them to be pungently aromatic." And so begins her love of Australian nature.

She continued to be an avid reader of a wide range of books. This passion together with a love of music was sustained throughout her busy life. Having had no formal education she, in later life, became quite proud of being an 'autodidact' along with many well-known famous people who were also self-educated.

At the age of thirteen, a nature story inspired by what she had found in a marine rock pool was published in the children's section of a national newspaper. More stories followed.

With onset of World War II, Densey first served in the women's "Land Army" before joining the regular army (Australian Women's Army Service) in 1942. Soon promoted to the rank of lieutenant, she served in signals units in Gippsland and Townsville.

Densey trained as a legal secretary after the war and while working for a legal firm in Sydney met Peter Clyne, a brilliant lawyer. They were married in 1950 and three years later bought a small house on a large block in Turramurra, a northern suburb of Sydney where Densey lived for the following 25 years. Densey has written "Its garden would be the inspiration for my new career as a natural history writer and documentary maker".

Soon Densey had given up work as legal secretary and devoted her time to planting and observing, getting to know and love the birds, insects and other creatures that lived in or visited her garden. Soon she began to study the smaller residents, the invertebrates, and became a passionate observer, note maker and photographer. She was able to record the life and activities of the Net Casting Spider (*Dinopis rubrata*) and many of her garden residents.

Feeling that she needed to improve her writing skills, in the early 1960's Densey enrolled in a course of "Literary

Expression" with the International Correspondence School and her literary career was well under way! Her paper on the Net Casting Spider was published in "Australian Zoologist" in 1967.

As has often been stated, "the rest is history". Books authored or co-authored by Densey include:

- 1969 – "A Guide to Australian Spiders. Their Collection and Identification."
- 1969 – "Australian Frogs."
- 1970 – "Australian Ground Orchids."
- 1972 – "Australian Rock and Tree Orchids"
- 1973 – "Wildflowers of New South Wales"
- 1973 – "Wildflowers of the Outback"
- 1973 – "Australian Insect Wonders" (with Harry Frauca).
- 1976 – "Australian Wildflowers" (with Esther Stepnell and Marian Beek).
- 1978 – "How to Keep Insects as Pets"
- 1979 – "The Garden Jungle"
- 1979 – "Rainforest. A Journey into Nature's Richest Garden" (with Jim Frazier)
- 1982 – "Night Animals"
- 1982 – "Birds"
- 1982 – "Frogs and Lizards"
- 1984 – "Wildlife in the Suburbs"
- 1984 – "More Wildlife in the Suburbs"
- 1984 – "Silkworms"
- 1985 – "Fraser Island/ Sands of Time" (with Felicity Baverstock).
- 1987 – "The Watchers of Dar" (with Nicholas Brash).
- 1988 – "Densey Clyne's Wildlife of Australia"
- 1990 – "How to Attract Butterflies to Your Garden"
- 1992 – "Cicada Sing-Song"
- 1993 – "Catch Me If You Can!"
- 1994 – "Flutter By, Butterfly"
- 1994 – "Growing Roses" (with Valerie Swane).
- 1995 – "Spotlight on Spiders"
- 1995 – "It's a Frog's Life!"

Photos of Densey by Jim Frazier

- 1998 – “Plants of Prey”
- 1998 – “The Best of Wildlife in the Suburbs”
- 2001 – “Australian Rainforests”
- 1999 – “Densey Clyne's Wildlife of Australia”
- 2007 – “Densey Clyne's Wildlife of Australia (new edn)”
- 2009– "The Secret Lives of Caterpillars"
- 2010 – "All About Ants"
- 2011 – "Attracting Butterflies to your Garden"
- 2018 – "My Encounters with Minibeasts"

In 1969, Densey, in her Kombi van, undertook a lone trip around Australia. Rather daring for a woman alone. She writes “It is the summer of l969 and eastern Australia is in drought. Across the border and into Queensland’s “outback” the smell of death fills the air. It comes from rotting carcasses: sheep and cattle dumped by road-trains taking starving stock south to agistment – or to the killing grounds. I pass middens, piles of bones; skulls picked clean by crows and other scavengers. The enormous ‘road-trains’ roaring past me, kicking up the dust, are the only signs of life. I am driving through a Martian landscape of red rock and red sand.”

By 1971, Densey had teamed up with Jim Frazier who soon became an expert in cinematography. She was involved as researcher, writer, narrator and/or adviser in the following productions, in partnership with Jim. They worked together for 28 years and produced:

- 1971 – "The Australian Ark”"
- Short (20-minute) educational documentaries:
  - 1975 – "Now You See Me Now You Don't"
  - 1975 – "Come Into My Parlour"
  - 1977 – "Every Care But No Responsibility"
  - 1977 – "Blueprint for Survival"
- 1978 – "Butterfly Farming in Papua New Guinea"
- 1979 – "Life on Earth”
- 1983 – "The Living Planet”. Densey and Jim were one of several filming teams to contribute to three of the BBC's world-renowned television series by Sir David Attenborough. They filmed sequences for these series in Borneo, Penang, West Sumatra and California, and were responsible for advising, researching and filming a number of Australian subjects, notably invertebrate animals.
- 1979 – "Encounter Underground".
- 1980 – "Gippsland". Series of four half-hour documentaries
- 1982 – "Lady of the Spiders"
- 1982 – "Funnelweb"
- 1983 – "Thrill of the Chase"
- 1983 – "Kinchega National Park"

- 1984 – "Desire of the Moth"
- 1985 – "Frazer Island – The Sands of Time"
- 1985-6 – "The Nature of Australia"
- 1986 – "To Be a Butterfly"
- 1986 – "Sounds Like Australia"
- 1988–9 – "The Trials of Life"
- 1991–2 – "Webs of Intrigue"
- 1996–7 – "The Amazing World of Minibeasts"

Often sponsored by organisations such as the BBC and ABC, their films won many awards.

These filming sessions took them to many interesting parts of the world and gave them extraordinary experiences, including a helicopter crash whilst filming crocodiles in Arnhemland. "Cough, splutter, cough.. . . the chopper bucks a bit and we are banking steeply heading down towards dense bush and possibly a crocodile-infested river."

Having purchased a property near Wauchope in 2000, and while creating a beautiful garden which soon attracted many visitors to her Open Gardens that she continued to hold until September 2018, Densey continued writing books and articles for many magazines and newspapers, including *Metamorphosis Australia*.

Photos by Densey

She filmed segments for Burke's Backyard TV show for many years.

Densey became a member of BOIC in 2008.

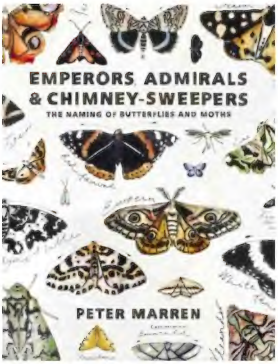
She loved to think up quirky titles for her articles as witnessed by the following articles she wrote for *Metamorphosis Australia*: *Broody Bugs and Ichy Cows*, Dec, 2009: *Anyone for Slugs*, June 2010: *Secrets of a Predatory Spider exposed,* Sept. 2011: *More about Arkys*, Sept. 2012: *The Goliath Stick Insect : a phasmid of colour and character*, Mar. 2013: *Tale of a Tailed Spider*, June 2013: *My Favourite Palynivore*, June 2013: *Predators by Proxy*, Dec. 2013: *Safe Sex for Insects*, Dec. 2015: *Artisans of the Gum Trees*, Mar. 2016: *Silken Cradles*, Sept. 2016: *The Scent of Spitfires*, Mar. 2017: *Moths Milling About*, Sept. 2017. She reviewed the books *Spider Silk; Guide to Beetles; Arachnids; Guide to Katydids of Aust*.

Daphne can attest to the fact that Densey didn't like her writing trifled with in any way. She actually took the editor of a Sydney newspaper to task because his staff had not only changed words in her article but changed the title!! Amusingly, on a couple of occasions, she wrote to "Mr. Arnott" of Arnott's biscuits complaining that their gingernut biscuits had an "unbiteably hard interior texture of your otherwise dunkable, crunchable, lovable gingernut biscuits, my erstwhile all-time favourite snacks".

I (Daphne) have often thought it would be wonderful for a person to have a microchip in their brain that, on demise, could be removed. Think of all the knowledge and experiences that could be preserved to share with others! I would certainly like to have a copy of Densey's mind.

With our respect *Ross Kendall* and *Daphne Bowden*

BOOK REVIEW



EMPERORS, ADMIRALS & CHIMNEY SWEEPERS – The naming of butterflies and moths
by Peter Marren - Little Toller Books 2019
ISBN 978-1-908213-71-6 Hardback 264pp
Reviewed by *Alan Hyman*

Why is a butterfly named an Emperor...or an Admiral...or a Monarch? For that matter, why is a butterfly called a butterfly...or a moth a moth? In this delightful volume, English author Peter Marren has researched the naming of British butterflies, moths and even micromoths from the earliest records in the 1600s to the 21st century. While the work concentrates on British lepidoptera, it can give us an insight into the naming of some Australian species (after all, we do have our own Emperor and Admiral for example). In any case, this is no dry history lesson. His literary style is eloquent, engaging and witty, absorbing the reader in all the quirks and quaintness of the early naturalists' backgrounds and naming rationales through to today's contemporary

terminology. Peter Marren has written numerous natural history books including '*Rainbow Dust... three centuries of delight in British butterflies*'; '*Bugs Britannica*', a major work on British invertebrates and is a contributor to '*Butterfly*' and '*British Wildlife*' magazines. This book is dedicated to another English author, Michael McCarthy (whose 2015 book '*The Moth Snowstorm*' should be in every conservationist's library and be compulsory reading for every politician and policy maker).

The work commences with a short quote from Lewis Carroll's '*Through the Looking Glass*', (Alice's conversation with the gnat) setting content and tone of what follows. After an historical background introduction, the text is set in two 'books' or parts. Book One, entitled 'Butterflies & moths acquire their names' is in nine chapters and traces the recorded history of insects in general from Genesis to Aristotle's first mention of butterflies in 340BC and Thomas Moffet's '*Theatrum Insectorum*' and the beginnings of naming by English naturalist John Ray (1627-1708). Asked 'what is the use of butterflies?' Ray's reply was: 'to adorn the world and delight the eyes of men: to brighten the countryside like so many golden jewels. To contemplate their exquisite beauty and variety is to experience the truest pleasure. To gaze enquiringly at such elegance of colour and form devised by the ingenuity of nature and painted by her artist's pencil is to acknowledge and adore the imprint of the art of God'. Such insight for its time... and could we think of a more suitable answer?

James Pettiver (c1665-1718) started applying English names that could be used in records and dialogue. For example, today's Gatekeeper butterfly was originally called 'the Hedge Eye with double Specks'; the Wall, 'the golden marbled Butterfly with black Eyes' and numerous other examples. Subsequent chapters deal sequentially with the phases and progress of lepidopteran study. There is the enormous contribution made by early natural history artists such as Maria Sibylla Merian, Eleazar Albin and Moses Harris. Then there were the Aurelians, a club established in London sometime between 1720 and 1738, naturalists 'dedicated to the study of insects'. The society's name had its origin in the word *aurelius* (chrysalis of a butterfly) and means 'the golden ones'. They came from various trades and professions but had shared interests in nature, insects, art, design and science. 'Georgian Imaginations' tells of the illustrations of Benjamin Wilkes as depicted in his 1748 '*The English Moths and Butterflies*' (which was sold by subscription to notable persons of the day) and Moses Harris' engravings in *The Aurelian*, as Marren puts it, 'by broad consent, the most handsome of all the old butterfly books: the perfect synthesis of art and science'. The chapter 'The Invention of Latin Names' includes Carl Linnaeus (1707-78) binomial system and his sometimes playful naming of butterflies, for example after female mythological figures... and the formalisation into genus and species by Johan Fabricius (1745-1808). In 'Enter the Victorians' we meet Adrian Howarth (1767-1833) who described the Large Copper and other entomologists such as Henry Doubleday (1808-75). We read of such moths as the Dotted Footman, Rusty Wave and Marsh Carpet and today's

new species bearing their discoverers' names like Porter's Rustic, Spalding's Dart and Radford's Flame Shoulder. The section concludes with the naming of microlepidoptera including a reference to the work of entomologist Ian Heslop (1904-1970) who also had an intense interest in the Purple Emperor butterfly.

The section is liberally illustrated with historical black and white engravings of early lepidopterists and reproductions of superb colour plates by some of the eminent artists featured in the book.

Part two: An A to Z of weird and wonderful names, can be read, as the author suggests, in any order. There are many subjects... animals, birds, mythical figures and items of all descriptions from which butterflies and moths have drawn their names. The directory proceeds from the 'A's such as 'Abundance', 'Admirals' and 'Architecture' through the 'B's and 'C's such as 'Beauty' and 'Beasts', 'Carpets' and 'Cats' through to 'Winter', 'Witches' and the Dutch word, *zandoogie* (the Sand Eye) for the English butterfly, the Gatekeeper. An example is the single lepidopteran species named after a biblical character. Quite recently described (1991), it is a micromoth, *Monochroa moyses* named after Moses. Why? 'Because, it seems, its caterpillar lives in bulrushes, much as the infant Moses did before his cradle was drawn forth by Pharoah's daughter'. The Fox Moth is so named because it has that animal's red-brown colour and it is no surprise that the Leopard Moth is liberally sprinkled with spots. Some species are named after punctuation marks. The Comma butterfly (*Polygonia c-album*) has a white 'comma' shape on the underside of the hindwings. Linnaeus interpreted the 'mark as a 'c' and so named it *c-album*, the c-mark'. Similarly, the White Colon Moth's forewing has a colon and the Drinker Moth a white outlined semi-colon. The name *Vanessa* (as applied to the Red Admiral *V. atalanta* and European Painted Lady *V. cardui* and their Australian counterparts, the Yellow Admiral *V. itea* and Australian Painted Lady *V. kershawi*) has its origin in the nickname of a pupil of poet Jonathan Swift 'based on the reversed syllables of her actual name, Esther Vanhomrigh. Throughout this section of the book we meet The Lesser Yellow Underwing, High Brown Fritillary, Pale Prominent, Clifden Nonpareil, plus Blue Bordered , Scorched, Sandy and Chalk Carpets and many others. Once again, the 'A-Z' is well served with fine, precision drawings by well known lepidopteran artist Richard Lewington. To conclude, there is a series of tables which follow the development of butterfly and moth names from the very beginnings to the 21st century, references and indices.

In short, this is a fascinating and unique work, packed with knowledge and history. It is written in such a genial but intelligent style that it should appeal to anyone with an interest in language and lepidoptera.... (or etymology & entomology?!) Beatrice Forshall's elegant hand-coloured etchings which adorn the dust jacket demonstrate that, in this instance at least, you *can* judge a book by its cover.

BOOKS IN STOCK

The club has "**The Complete Field Guide to Dragonflies of Australia**: Gunther Theischinger and John Hawking: CSIRO Publishing" available for purchase for $45 plus postage of $13
And two of Densey Clyne's last published books **"Attracting Butterflies to Your Garden"**: Densey Clyne: Young Reed / New Holland Publishers ($22 +$6) and "**My Encounters With Minibeasts - From Purple Moonbeams to Itchy Cows"**: Densey Clyne: Young Reed / New Holland Publishers ($30 + $13)

BOIC SEED BANK

Several years ago, the Club endeavoured to operate a host plant seed bank, with limited success, unfortunately. We going to try again as we feel that it will be beneficial to members to have access to host plants that are not readily available. For this to succeed, we need Club members to collect seed from private property (definitely not protected bushland), identify the seed, and forward this on to us for storage and subsequent distribution. We will provide a list of available seed in each magazine or via email. It will then require those members wanting seed to send us a stamped, self-addressed envelope, and stating therein what is required.
The address to use is: Daphne Bowden, 24 Rickston Street, MANLY WEST Qld. 4179

This will perhaps give those club members, who are unable to support the club in other ways because of distance or otherwise, an opportunity to do so.

ERRATA

New host plants for *Syntherata janetta,* article, Metamorphous Australia issue 93 June 2019.
In the body of the article I point out that Brechlin, 2005, places *helena*, *loranthi*, *eucalypti* and *engaea* in *the genus Austrocaligula* while retaining *astrophela* and *fervida* in *Opodiphthera,* however, I incorrectly placed both *astrophela and fervida* in *Austrocaligula* in Table 2. I am indebted to Don Herbison-Evans for pointing out this error.
Also the NOTE was an incomplete sentence which should have read, In Metamorphosis Australia Issue No. 51, December 2008, I wrote an article simply titled Saturniidae; all the images in this article referred to as *S. janetta* are in fact *S. escarlata* (unnamed at that time). *Peter Hendry*

BOIC Club meeting at Downfall Creek Bushland Centre 10/8/19 –

Russel Denton

The BOIC (Butterfly and Other Invertebrates Club) had its general meeting at Downfall Creek Bushland Centre, at Chermside. It began with the meeting, followed by the club displays, publications on sale and a panel of invertebrate experts which consisted of Ross Kendall, Richard Zietek, Rob MacSloy, David Exton, John Moss, Chris Sanderson, Bernie Franzmann, Peter Hendry and Russel Denton to assist the general public in their invertebrate queries/mysteries, or identification help. The day was a huge success.

Photos Russel Denton

Photos Denis Taylor

Other Groups' Activities

The Australian Entomological Society Inc. is holding its annual conference in Brisbane from 1st – 4th December, 2019, at the Convention Centre, Southbank.

In the spirit of friendliness, BOIC has offered to organise a pre-conference bus trip to the Bribie Island Butterfly House with lunch at the Sandstone Point Hotel on the return journey. This event will take place on Sunday 1st December.

The Society has agreed for BOIC to have a display at the Conference on the first day (2nd December). This is a wonderful opportunity to display the Club to a world-wide audience.

If we have vacancies for the bus trip, BOIC members will be given the opportunity to participate. All members will be advised. *Dawn Franzmann*

Butterfly and Other Invertebrates Club Programme

Deagon Wetlands Excursion - escorted by Russel Denton

When: **Saturday 19th October, 2019**

Time: 9.30am, meet at the car park in Brackenridge Road, Bald Hills (a map will be emailed closer to the date)

Duration: approx 1.30 hours

What to Bring: comfortable walking shoes, digital camera/s, drinking water, snacks or lunch, hat, sunscreen.

RSVP: Dawn Franzmann, Secretary BOIC on 0419 786 369 or secretaryboic@gmail.com

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Planning and General Meeting

What: Our quarterly planning meetings are informative and interesting and we welcome members to contribute to discussion. Immediately following our meeting Darren Shepherd from the ECO Centre and Chris Sanderson from the Butterflies Australia Project will be demonstrating the Project's App. Darren and Chris will demonstrate how to download and use the App on all devices. Once everyone has the App downloaded on their phone, IPad or Android devices we will proceed for a walk through the Forest. Along the way, Chris will demonstrate and help us to take photos of butterflies or invertebrates and load them on to the App using the GPS function. Chris will be available to give everyone an update and overview of his Project. This App will be a free download funded by the Federal Govt. **ALL WELCOME.**
This will be held at 11 am, immediately after the meeting.

When: Saturday 16th November, 2019 commencing at 10.00am.
Where: Toohey Forest Environmental Centre, Griffith University, Nathan Campus.
RSVP: Dawn Franzmann, Secretary BOIC on 0419 786 369 or secretaryboic@gmail.com

DISCLAIMER

The magazine seeks to be as scientifically accurate as possible but the views, opinions, and observations expressed are those of the authors. The magazine is a platform for people, both amateur and professional, to express their views and observations about invertebrates. These are not necessarily those of the BOIC. The manuscripts are submitted for comment to entomologists or people working in the area of the topic being discussed. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

ACKNOWLEDGMENTS

Producing this magazine is done with the efforts of:

- Those members who have sent in letters and articles
- Lois Hughes who provided the cover painting
- Daphne Bowden who works on layout, production, and distribution
- John Moss, Ian Endersby, Peter Hendry and Ross Kendall for scientific referencing and proof-reading of various articles in this issue of the magazine

ARE YOU A MEMBER?

Please check your mailing label for the date your membership is due for renewal. If your membership is due, please renew as soon as possible. **Annual membership fees are $30.00 for individuals, schools, and organizations**. If you wish to pay electronically, the following information will assist you: BSB: **484-799**, Account No: **001227191**, Account name: **BOIC**, Bank: **Suncorp**, Reference: your membership number and surname.

Butterfly and Other Invertebrates Club Inc.
PO Box 2113
RUNCORN Q. 4113

Next Club event – Deagon Wetlands Excursion - Saturday 19th October, 2019
See Club Programme for details